

REMARKS

This is in response to the Office Action that was mailed on July 12, 2002. Claim 10 is amended to correct what is clearly a typographical error. No new matter is introduced. Accordingly, entry of this Amendment under the provisions of 37 CFR 1.116 is respectfully solicited. With this Amendment, claims 1, 4-8, and 10 are in the case.

Clean copy of pending claims (as amended herein):

1. A gas generating composition comprising
a fuel made of nitroguanidine, guanidine nitrate, or a mixture thereof,
an ammonium perchlorate oxidizing agent, and
a chlorine neutralizer.
4. The gas generating composition of claim 1, wherein the chlorine neutralizer is a compound containing a cation selected from the group consisting of alkali metals and alkaline earth metals.
10. The gas generating composition of claim 1, wherein the chlorine neutralizer is selected from the group consisting of a silicic acid salt, an oxalic acid salt, an oxide, a peroxide, a cellulose salt, a salt of tetrazole, a salt of triazole, and a salt of bitetrazole.
5. The gas generating composition of claim 1, wherein the content of the fuel is between 35 and 80% by weight, and the content of the oxidizing agent is between 65 and 20% by weight.
6. The gas generating composition of claim 1, which further comprises a binder or a combustion catalyst as an additive.
7. The gas generating composition of claim 1, wherein an amount of a combustion residue based on an amount of a gas generated is 12 g/mol or less.
8. An inflator system using the gas generating composition of claim 1.

Rejection Over Nielson

Claims 1-8 were rejected as being unpatentable over US 6,224,099 (Nielson). “[T]he examiner bears the initial burden, on review of the prior art or on any other ground, of presenting a *prima facie* case of unpatentability.” *In re Oetiker*, 24 USPQ2d 1443. “Where the legal conclusion [of obviousness] is not supported by [the] facts[,] it cannot stand.” *In re Warner*, 154 USPQ 173.

In support of the rejection, the Examiner states that in columns 6 and 7 of the Nielson patent, “a composition is disclosed that contains ammonium perchlorate, guanidine nitrate, sodium carbonate and binders”. Applicants respectfully disagree. Nielson teaches among other things:

In general, the selected gas generant fuel is combined, in a fuel-effective amount, with an appropriate oxidizing agent to obtain a suitable gas generating composition. ... Inorganic oxidizing agents are generally preferred because they produce a lower flame temperature and an improved filterable slag. Such oxidizers include metal oxides and metal hydroxides. Other oxidizers include a metal nitrate, a metal nitrite, a metal chlorate, a metal perchlorate, a metal peroxide, ammonium nitrate, ammonium perchlorate and the like. The use of metal oxides or hydroxy nitrates or hydroxides as oxidizers is particularly useful.... The oxide and hydroxide oxidizing agents mentioned above can, if desired, be combined with other conventional oxidizers.... The selected gas generant fuel can, if desired, be combined with a relatively cool burning compound, which itself may be a fuel and/or oxidizer. In these compositions, another separate secondary oxidizer may, if desired, be dispensed with. Exemplary relatively cool burning compounds include guanidine nitrate, triamino guanidine nitrate, aminoguanadine nitrate, and urea, among others. ... The gas generant compositions which can be used in combination with an igniter stick or other ignition grain can also include additives conventionally used in gas generating compositions, propellants, and explosives, such as binders, burn rate modifiers, slag formers, chelating agents, release agents, and additives which effectively remove NO_x. Typical burn rate modifiers include Fe₂O₃, K₂B₁₂H₁₂, Bi₂MoO₆, and graphite carbon fibers. A number of additives and/or agents are also known to reduce or eliminate the oxides of nitrogen from the combustion products of a gas generant

composition, including alkali metal salts and complexes of tetrazole, aminotetrazole, triazoles and related nitrogen heterocycles of which potassium aminotetrazole, sodium carbonate and potassium carbonate are exemplary. The composition can also include materials which facilitate the release of the composition from a mold such as graphite, molybdenum sulfide, or boron nitride.

The Examiner is respectfully requested to point out how these generic teachings disclose "a composition" that contains ammonium perchlorate, guanidine nitrate, and sodium carbonate.

The Examiner's attention is respectfully directed to the decision of the Court of Appeals for the Federal Circuit in *In re Kotzab*, 55 USPQ 131. In that case, like the present one, claims were rejected over different items selected from within a single reference. The CAFC said that the PTO had fallen into "the hindsight trap" and located within the reference statements that conjecturally could be put together to suggest the claimed invention. But, the Court pointed out, there was no finding as to the specific understanding or principle within the knowledge of a skilled artisan that would have motivated one with no knowledge of Kotzab's invention to make the combination in the manner claimed. The Court held that the PTO had not made out a proper *prima facie* case of obviousness.

Also, the Examiner's attention is respectfully directed to Table 1 on page 12 of the specification, wherein Examples 8-14 (NH_4ClO_4 compositions) left combustion residue amounts ranging from 3.2-7.6 g/mol. This is significantly lower than the combustion residues left by Comparative Examples 1-3 (compositions not containing NH_4ClO_4), for which the combustion residue amounts range from 14.2-44.5 g/mol.

The rejection of record is not sustainable.

Conclusion


If the Examiner has any questions concerning this application, she is requested to contact Richard Gallagher, Reg. No. 28,781, at (703) 205-8008.

Pursuant to the provisions of 37 C.F.R. §§ 1.17 and 1.136(a), the Applicants hereby petition for an extension of three (3) months to Sunday, January 12, 2003, in which to file a reply to the Office Action. The required fee of \$930.00 is attached to the Notice of Appeal, which is being filed concurrently herewith.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

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RCS/RG

Attachment: Version with Markings to Show Changes Made

VERSION WITH MARKINGS TO SHOW CHANGES MADE

Claims 3 and 9 have been canceled.

The claims have been amended as follows:

10. (amended) The gas generating composition of [clam] claim 1, wherein the chlorine neutralizer is selected from the group consisting of a silicic acid salt, an oxalic acid salt, an oxide, a peroxide, a cellulose salt, a salt of tetrazole, a salt of triazole, and a salt of bitetrazole.